

REMARKS

Statue of Claims:

Claims 1, 3-4, 6 and 10 have been cancelled, and new claims 14-31 have been added. Thus, claims 2, 5, 7, 8, 9 and 11-31 remain for examination.

Substitute Specification:

The Examiner has suggested filing a clean copy of the application as originally filed since the originally filed application was in facsimile form and is difficult to read.

Enclosed herewith is a substitute Specification which is a copy of the application as originally filed (without claims). The work spacing is a little different from that in the originally filed application so that the page and line numbers of the Substitute Specification, do not completely match up with the page and line numbers of the originally filed application. However, no new matter has been added as the text is identical and the Substitute Specification is much clear than the application as originally filed. .

Claim Objections:

Claims 2-13 stand rejected for utilizing the term “the send data”. Applicant has performed a word search and replaced the objected to term by the Examiner suggested term “the sent data”.

Prior Art Rejections

Claims 1-2 and 5-6 stand rejected under 35 U.S.C. § 102(e) as anticipated by Trachewsky (U.S. base 2003/0206559).

Claims 1, 2, 5-7 and 12-13 stand rejected under 35 U.S.C. § 103 as being anticipated by JP S59-204347, H5-1280594 or S59-91527. Further, claims 3-4 and 10-12 stand rejected under 35 U.S.C. § 103 over the above-enumerated Japanese references further in view of H10-229405.

Claims 8-9 stand rejected under 35 U.S.C. § 103 over the first three enumerated Japanese references further in view of H11-234286. Finally, claims 8 and 9 as well as claim

13 stand rejected under 35 U.S.C. § 103 as unpatentable over Trachewsky in view of H11-234286 for Gollnick (US 2004/0073933).

By way of the instant amendment, applicant has canceled claims 1, 3-4, 6, and 10.

Claim 2 has now been amended to include the recitations of now canceled claims 3 and 4. It is submitted that the prior art does not disclose these specifically recited combination of the hop count recording field and the random number generation step which generates a random number which is multiplied by a value obtained by subtracting a value proportional to the hop count from 1 to generate the delay time. The general disclosure of a hope count set forth in H10-229405 simply does not teach applicant specifically recited limitations. As such, as to amended claim 2, the Patent and Trademark Office has not made out a case of anticipation in view of Trachewsky under 35 U.S.C. § 102 nor a *prima facie* case of obviousness under the provisions of 35 U.S.C. § 103.

Claim 5 has been amended to incorporate therein the limitations of original claim 2 as well as original claim 6. As such, claim 5 recites not only the priority value recording field but in addition, the random number generated by the random number generation step. Claim 5 further recites that the random number is multiplied by a value proportional to the priority value of the send packet to generate the time delay. The general disclosure of using fragments as taught in H11-234286 simply does not disclose applicant's specifically recited above enumerated limitations and thus the Patent and Trademark Office has not made out a case of anticipation in view of Trachewsky under 35 U.S.C. § 102 nor a *prima facie* case of obviousness under the provisions of 35 U.S.C. § 103.

Claim 8 has been amended to incorporate herein the limitations of original claim 2 as well as the first paragraph of the body of dependent claim 9. As such, claim 8 is similar to claim 5 in reciting not only the sent data length recording field but also the random number generated by the random number generator and further reciting the limitations that the random number is multiplied by a value obtained by subtracting a valuable proportional to the data size from 1. Further, claim 9 is retained as to the last two paragraphs of the original claim in reciting that the packet having a larger data size recorded in the sent data length recording field is preferentially sent, and when the data size is identical, the packet, wherein

continued data is present in the continued data recording field, is preferentially sent.. No such counter-part limitations are found in the combined teachings of the prior art.

Claim 11 has been amended to incorporate therein the subject matter of claims 2 and 10. As such, claim 11 recites not only the hop count recording field but also the random number generator generated in the random number generation step wherein the random number generator is multiplied by a value proportional the priority value and then by a value obtained by subtracting a value proportional to the hop count from 1. Thus, claim 11 recites the hop count and a separate priority value, different from the hop count and a time delay generation step utilizes the random number as well as the priority value and the hop count. These recited limitations are not found in the combined teachings of the prior art, and thus, the Patent and Trademark Office has not made out a *prima facie* case of obviousness under the provisions of 35 U.S.C. § 103.

New claims 14-31 have been added of which claims 14, 19, 21 and 23 are independent. Claim 14, recites, *inter alia* that the back-off time is calculated by multiplying said random number by a value which is obtained by subtracting a division of said hop count by a maximum hop count from 1 (one), and thus is similar to claim 2 discussed above. Claim 19 is directed toward the third embodiment of the invention as illustrated in applicant's Fig. 11 and includes the recitation that the random number generated in the random number generating step is multiplied by a value obtained by subtracting a value proportional to the data size from 1 (one), and, when the continued data is present, in addition, the obtained value is multiplied by a predetermined value to generate a delay time. These limitations are clearly not made obvious by the combined teachings of the prior art.

Newly added independent claim 21 is directed toward the fourth embodiment shown in applicant's Fig. 12. This claim recites that the sent packet has a hop count recording field for recording a hop count as a measure of the priority level of the sent packet, and a priority value recording field for recording a priority value as a measure of the priority level of the sent packet, and that in determining the priority level, the priority level of the sent packet is judged based on the hop count and the priority value. These limitation as likewise not made obvious over the combined teachings of the prior art.

Finally, newly added independent claim 23 more generally recites applicant's invention in terms of the priority level being determined based on a hop count and the limitation that the sent packet having a larger hop count is preferentially sent.

According to newly submitted claim 23, there is recited the limitation of judging as to whether a recycle of the sent packet (transmission packet) is over or not and the limitation of determining the back-off time when the recycle of the sent packet is not over.

Further, claim 23 characterizes the invention by the feature that a priority level of the sent packet based on a hop count of the sent packet and the feature that the sent packet having a larger hop count is preferentially sent.

In utilizing applicant's invention, it is possible to resend the packet after standby by the back-off time in the packet transmitter, so that the packet can be sent without collision against other packet as described on page 23, lines 2 to 9 of the application as originally filed.

Further, since the sent packet with a larger hop count is passed through a larger number of relay stations, such a packet is more likely to be lost as a result of a failure of transmission, and the delay time and variation of such a packet become larger. Therefore, according to the embodiment as claimed in claim 23, the preferential transmission of the sent packet with a larger hop count is performed which can reduce the probability that the sent packet is lost due to recycle-over as described on page 23, lines 10 to 18 of applicant's specification as originally filed.

The limitations of claim 23 are not disclosed nor made obvious over the prior art. In this connection it is pointed out that Trachewsky is completely silent about a hop count, and as such is silent as to utilizing the hop count as a basis for priority.

As to the Japanese references, the following summary is relevant.

1) JF59-204347

This reference discloses a packet communication system in which a back-off time of retrying packet transmission is controlled according to the priority of a communication packet, so as to improve a throughput.

2) JP5-128059

This reference discloses a priority data transfer system in which the priority data is resent prior to other data when transmitting data comes into collision with each other on a bus.

3) JF59-91527

This reference discloses a bus priority control method in which a waiting time for retry is automatically changed according to a message level which is predetermined for each message, so that the message with a higher message level can use the bus prior to the other messages.

4) JP10-229405

This reference discloses an ATM switch and call reception priority control method in which a priority class indicating a call reception priority is defined for each parts of the ATM switch.

5) JP11-234286

This reference discloses a radio access method and radio communication system in which the influence of transmission delay variation due to the difference in data length is suppressed.

Most importantly, these Japanese references do not provide any teaching of the recited limitations that a priority level of the send packet is based on a hop count of the sent packet and the limitation that the sent packet having a larger hop count is preferentially sent. As such claim 23 is deemed patentable over the prior art.

Applicant's dependent claims are deemed patentable at least for the reasons indicated above as to the independent claims from which they depend.

Conclusions:

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date

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By

David A. Blumenthal

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 672-5407
Facsimile: (202) 672-5399

David A. Blumenthal
Attorney for Applicant
Registration No. 26,257